

**Work Order ID 62280**

September 24, 2010 1:56:56 PM



Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 9/24/10 Start Qty: 1.00



Cust Item ID:

Required Date: 10/08/10 Req'd Qty: 1.00



Customer:

Reference:

Run Start

Approvals: Process Plan: CZ

Date: 10/9/24 Tooling:

Date:

Stop



QC:

Date: SPC (Y/N):

Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3274	D								
IIN-D206-642	Rev M	0.00							

100



## DOCUMENT CONTROL

DC

Document Control

## Memo

Photocopy bluefile &amp; type labels per PPP D206-642-541

CHG003

N/A CZ, 10/12/13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_

Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInspec.  
Stamp

110



Skidtubes

0.00

Skidtubes

Memo

0.00

\*\*\*\*VERIFY AND INSPECT THE MATERIAL PRIOR TO USE\*\*\*\*

1- Bend FWD end of tube using bend prog D3274 FWD and foilo 10 as per dwg D3274, cut fwd end of tube with saw table setup D3274.

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and QSI004

AR Aluminum Rod Batch:

M112507

10-10-4
BE
10-10-5
BE
10-10-5

4- grind fwd cap weld on top surface only

BE
10-10-5

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D.  
Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

{
BE
10/10/05

W/O:		WORK ORDER CHANGES					
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Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

Chemical Conversion Coat per QSI005 4.1

0.00

1 - 8/10/05



HandFinish

Memo

0.00

Hand Finishing

130

QC3- Inspect Part Finish

0.00

S 10/10/05



QC

Memo

0.00

Quality Control

140

QC5- Inspect part completeness to step on W/O

0.00

S 10/10/05



QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
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Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

150

Operation  
Description

Skidtubes

Set Up/  
Run Hours

0.00

Tool ID

Tool #

Plan

Code

Accept

Qty

Reject

Qty

Reject

Number

Insp.

Stamp

Skidtubes

Memo

0.00

1-Open Ø0.313" and 0.375" crossbolt spacer holes using DT8743 as per Dwg  
D32742-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from  
inside the tube

3-Bond web in place as per Dwg D3274 &amp; QSI 015.

A/R  Sikaflex-291  *11/11/10* Sikaflex expire date: *11/01/2012*Start: *10/11/10* Time: *11:00*Finish: *10/11/10* Time: *11:30AM*

(Adhere for 12 hours)

*10-10-6*
*10/11/04*

160



QC5- Inspect part completeness to step on W/O

0.00

QC

Quality Control

Memo

0.00

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

170



Skidtubes

0.00

DP 10-11-8

Skidtubes

Memo

0.00

1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.

10-11-8

2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2  
OPEN HOLES TO .297". Deburr

10-11-8

3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD  
END OF TUBE  
DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES)  
REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

4- Countersink crossbolt spacer holes as per Dwg D3274

10-11-8

5- prepare for welding

180



QC5- Inspect part completeness to step on W/O

0.00

L° = 41.7°

QC

Memo

0.00

h = 2.965"

SoluLog

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190



Skidtubes

0.00

Skidtubes

Memo

0.00

1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod

A/R  Aluminum Rod M11385
AE 10/11/15

Skidtubes

3-Grind cross bolt welds flush as per Dwg D3274.

Skidtubes

4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

BE 10/11/15

200



QC5- Inspect part completeness to step on W/O

0.00

QC

Memo

0.00

Quality Control

J10445

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

210



QC10- Inspect visual per QSI004- ground welds

0.00

QC

Memo

0.00

Quality Control

220



Pressure Wash per QSI005 4.3

0.00

HandFinish

Memo

0.00

Hand Finishing

230



White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Powdercoat

Memo

8:00

0.00

Powder Coating

START TIME: 8:00

OVEN TEMPERATURE: 320

FINISH TIME: 8:30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 9/24/10 Start Qty: 1.00



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Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center ID

240



QC

Quality Control

Operation  
Description

QC3- Inspect Part Finish

Set Up/  
Run Hours

0.00

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

=&gt; M 10/11/18

1 Q

250



HandFinish

Hand Finishing

Memo

0.00

Memo

0.00

1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets.  
A/R□N/A□LPS-3□ M109956

=&gt; M 10/11/18

1 Q

2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a

A/R□□Sikaflex-291 □ M115170Sikaflex expire date: □ 11/01

260



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Inspect Nut Plate &amp; Inserts

M 10 11 18 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center ID  
270

HandFinish

Hand Finishing

Operation  
DescriptionSet Up/  
Run Hours  
0.00

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

HAND FINISHING RESOURCE #1

z) *AL*

10/11/18

*1* *Ø*

Memo

0.00

1-Install wearpads &amp; gaskets as per Dwg D3274.

✓ 2-Install ring as per Dwg D3274  
A/R  Sikaflex-291  *10/11/18*  
Sikaflex expire date:  *11/10/10*

✓ 3-Inspect for foreign objects as per QSI 024

✓ 4-Spray inside of tube on both sides of web with LPS-3  
A/R LPS-3 Batch: *N/A*✓ 5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.  
A/R  Sikaflex-291  *10/11/18*  
Sikaflex expire date:  *11/10/10*

280



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

*S 10/11/18*

Memo

0.00

*(70)*

W/O:		WORK ORDER CHANGES					
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Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
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DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

290

Identify as per dwg &amp; Stock Location:

0.00



Packaging

Packaging

Memo

PP633P3

0.00

300

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
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# Picklist Print

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Work Order ID: 62280



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Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/24/10

Required Date: 10/08/10

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC  
IPP Rev:F 08-06-02 add comment DD verified by:EC  
IPP Rev:G 08-10-09 revise details DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-1-190		Manufactured	No			110	Each	74.0000	1	1			

Extrusion Round 3" 206



Location	Loc Qty	Loc Code
LG	74	
47575	26	
59874	48	

DP 10-10-4

D3285-1



Manufactured No

110 Each 141.0000 1

Cap

Location	Loc Qty	Loc Code
LG	141	
52511	74	
52647	67	

BE 10-10-4

D3282-041



Manufactured No

150 Each 3.0000 1

Float Web (206L/407)

Location	Loc Qty	Loc Code
LG	3	
59886	3	

60931

BB 10/11/04

W/O:		WORK ORDER CHANGES					
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Work Order ID: 62280



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

D2649



Cross Bolt Spacer

Manufactured No

190 Each 107.0000

Start Date: 9/24/10  
Start Qty: 1.00

Required Date: 10/08/10  
Required Qty: 1.00



B63359 12 B6011/11

D3275-1



Crossbolt Spacer

Manufactured No

190 Each 184.0000

1 12



B62399 12 B6011/11

CR3212-4-03



Cherry Rivet

Purchased No

250 Each 1,898.0000

2



44 10/11/18

D3415-041



Nut Plate

Manufactured No

250 Each 55.0000

1



44 10/11/18

September 24, 2010 1:56:56 PM

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST311	1898	
111359	5	
112314	2	
114436	448	
<u>114450</u>	77	
114859	1366	



44 10/11/18

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
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Work Order ID: 62280



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Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/24/10

Required Date: 10/08/10

Start Qty: 1.00

Required Qty: 1.00

CCR264SS3-3

Purchased

No

250

Each

456.0000

2

2



41 10/11/18

Cherry Rivet

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST311	456	
112314	4	
113539	44	
<u>113973</u>	408	XZ

ALS4-1032-130

Purchased

No

250

Each

2,044.000

78

78



41 10/11/18

Insert

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
PKG11	1995	M115911
114723	1995	V78
ST282	10	
110511	10	
ST381	39	
114654	39	

D3536-15

Manufactured

No

270

Each

17.0000

1

1



41 10/11/18

Gasket

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	16	
56055	4	
60875	12	B62459
FP11	1	V1
59238	1	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

## Picklist Print

September 24, 2010 1:56:56 PM

Page 4

Work Order ID: 62280



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

8

D3536-23



Gasket

Manufactured No

270 Each 15.0000

1



1



1



1



1



1



1



1



1



1



1



1



1



1



1



1



1



1



1

### Location

FP011

### Loc Qty

15

### Loc Code

B6B238

X1

60234  
61237

4  
11

### Location

FP012

### Loc Qty

16

### Loc Code

B6C3579

X1

58683  
60235  
61692

1  
3  
12

270 Each 15.0000

1



1



1



1



1



1



1



1



1



1



1



1



1



1



1



1



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1



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1

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

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Page 5

Work Order ID: 62280



46

Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/24/10

Required Date: 10/08/10

Start Qty: 1.00

Required Qty: 1.00

D3535-35



Manufactured

No

270

Each

13.0000

1

1

M 10/11/10

Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP018

13

B62460

y1

60865

13

D3535-39



Manufactured

No

270

Each

19.0000

1

1

M 10/11/10

Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP18

19

58214

2

D3535-23



Manufactured

No

270

Each

25.0000

1

1

M 10/11/10

Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP

12

B62706

x1

61830

12

D3537-3



Manufactured

No

270

Each

18.0000

1

1

M 10/11/10

Wearpad

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP17

17

60866

17

B61674

v1

FP19

1

59711

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

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Page 6

Work Order ID: 62280



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/24/10

Required Date: 10/08/10

Start Qty: 1.00

Required Qty: 1.00

D3537-1



Manufactured No

270

Each

87.0000

9

9



HL 101118

Wearpad

	<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>	
	FP	1	1362928	X9
	55465	1		
	FP17	86		
	57713	3		
	60491	3		
	61640	80		

AN960C10L

NAS1149C0332

Purchased

No

270

Each

29.0000

80

80

washer

M 115832



X80 HL 101118

AN960C416

NAS1149C0463

Purchased

No

	<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>	
	ST245	29		
	107534	29		

washer

M 115358



X1 HL 101118

D3672-1



Manufactured

No

	<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>	
	ST346	103		
	100993	103		

Phenolic Washer

270 Each 869.0000

2



HL 101118

	<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>	
	ST077	869		
	42329	150		
	52505	719		

2



X2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

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Work Order ID: 62280



4

Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/24/10

Required Date: 10/08/10

Start Qty: 1.00

Required Qty: 1.00

AN3C4A



Purchased

No

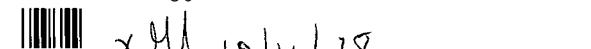
270

Each

2,108.000

80

80



BOLT

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST245	38	
109061	11	
110139	27	
ST303	42	
115438	42	
ST350	2028	
114108	14	
114416	12	
114523	2	
115300	1000	
<u>115589</u>	1000	

XH1 10/11/18

AN4C5A



Purchased

No

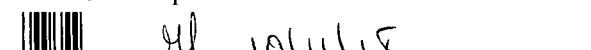
270

Each

495.0000

1

1



BOLT

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST346	495	
110552	7	
<u>112243</u>	488	

XH1 10/11/18

D2646



Manufactured

No

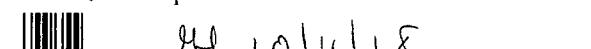
270

Each

60.0000

1

1



Aft Cap

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP-4	51	
<u>57332</u>	51	
fp5	4	
61752	4	
FP6	5	
52663	5	

XH1 10/11/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

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Work Order ID: 62280



8

Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 9/24/10

Required Date: 10/08/10

Start Qty: 1.00

Required Qty: 1.00

D3413-1

Manufactured No

270

Each

36.0000

1

1



HL 101-118

Ring

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST473	36	
51586	1	
53446	15	
<u>61322</u>	20	X1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

**DART**

DESIGN <b>CP</b>	DRAWN BY <b>PH</b>	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA
CHECKED <b>#</b>	APPROVED <b>#</b>	DRAWING NO. <b>D3274</b>
DATE <b>06.12.19</b>		REV. D SHEET 1 OF 4
		TITLE <b>SKIDTUBE ASSEMBLY</b>
		SCALE <b>NTS</b>
A	04.03.15	NEW ISSUE
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76
C	05.03.16	ADD -043; NEW INSERTS
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET

**RELEASED**07.02.12 **#****DEO ATTACHED**

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED CO  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 62280

CY1019124

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

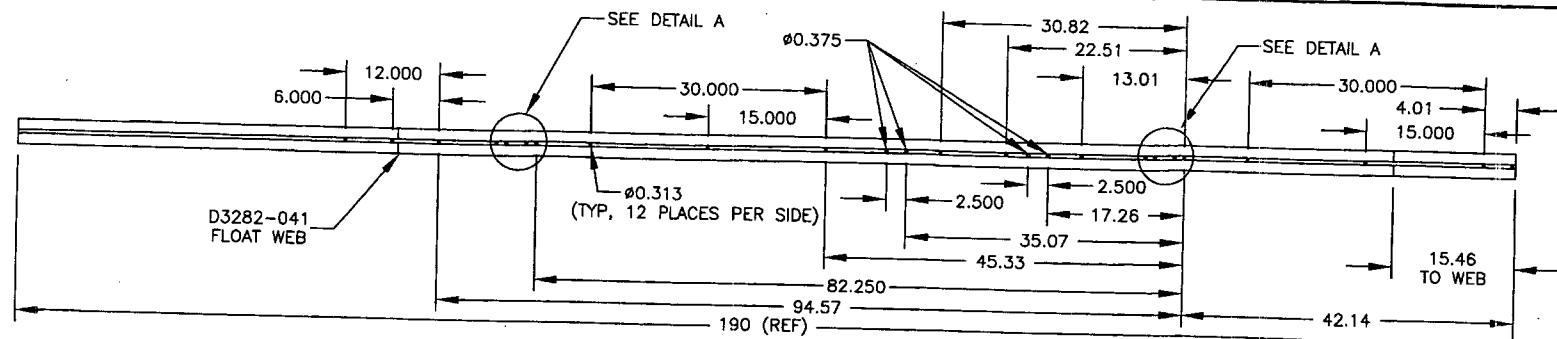
**GENERAL NOTES:**

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1  
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLX-241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

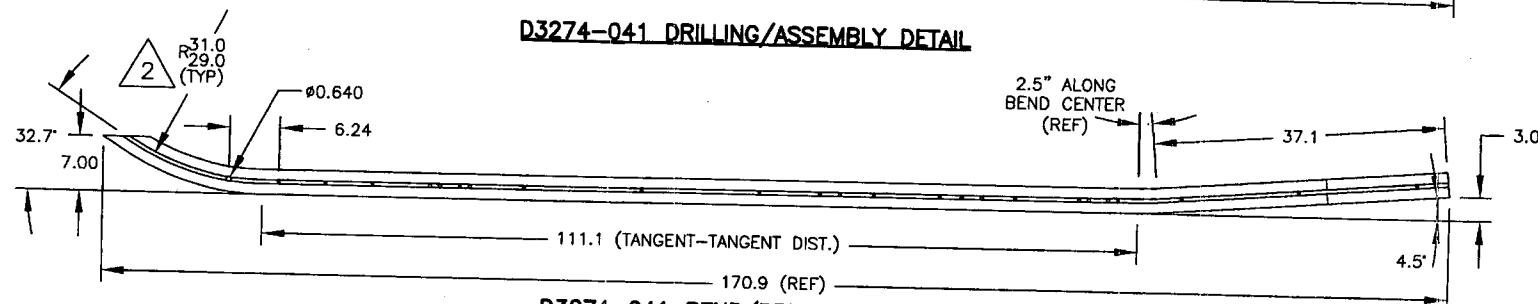
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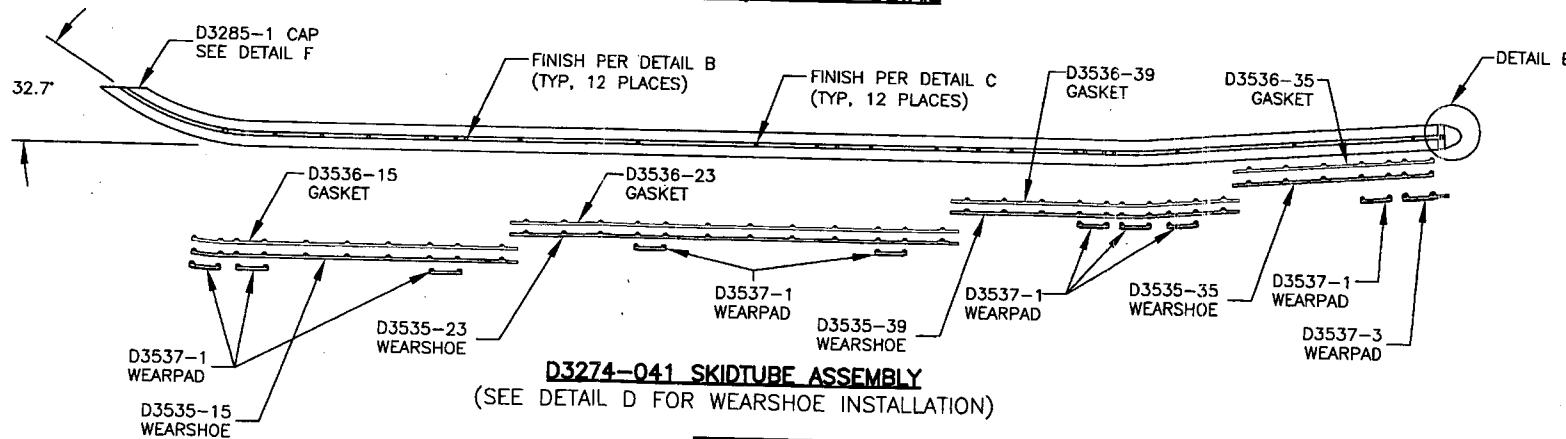
DET ATTACHED



D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL



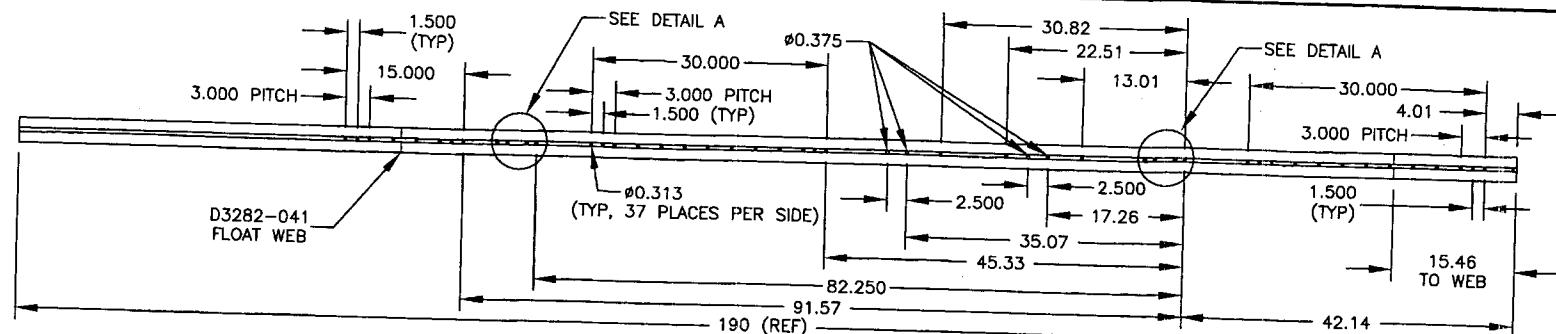
D3274-041 SKIDTUBE ASSEMBLY  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

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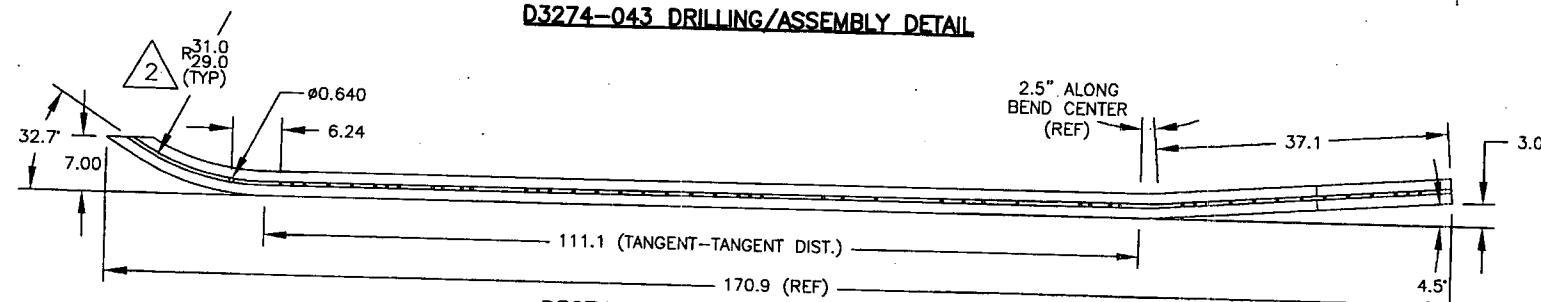
07.02.12

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CHECKED #	APPROVED #	DRAWING NO. 03274		
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY		
		REV. D SHEET 2 OF 4 SCALE 1:15		

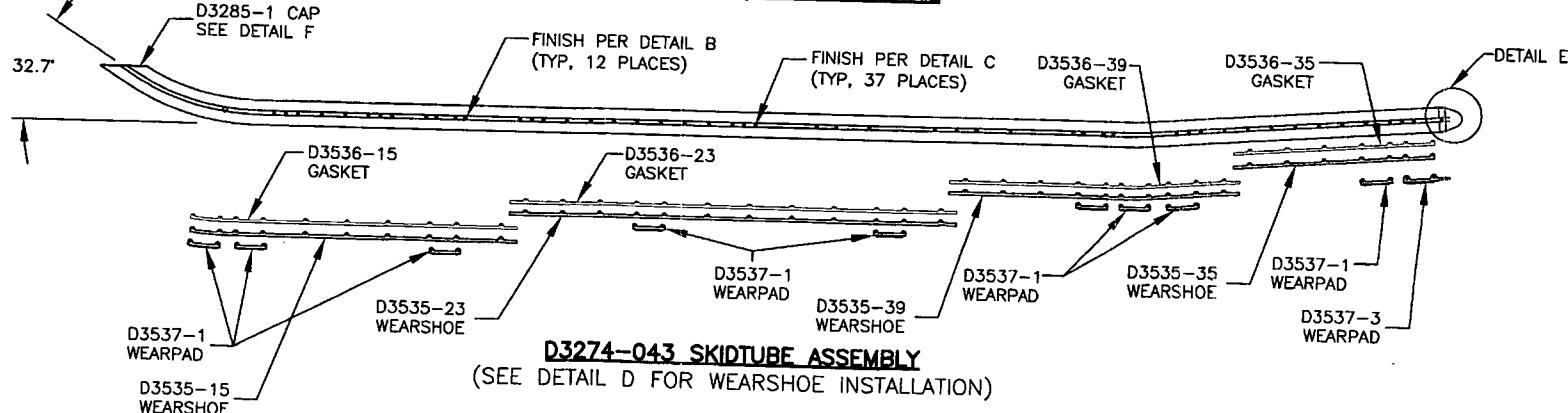
**DETACHED**



**D3274-043 DRILLING/ASSEMBLY DETAIL**



**D3274-043 BEND/DRILLING DETAIL**

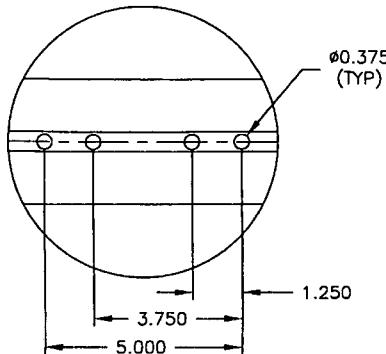
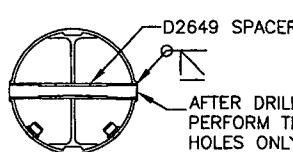


**D3274-043 SKIDTUBE ASSEMBLY**  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

**RELEASED**

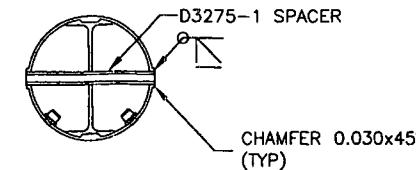
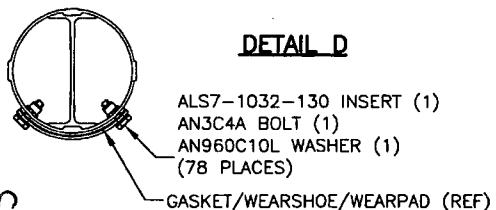
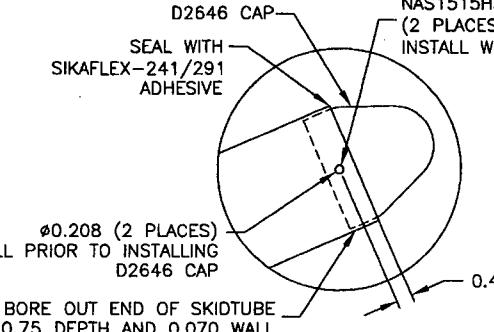
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CHECKED	APPROVED	CP	AH	DRAWING NO.	D3274	PORT HULOCK, WA
				REV. D	SHEET 3 OF 4	
				DATE	TITLE	SCALE
				06.12.19	SKIDTUBE ASSEMBLY	1:15

**DETAIL A: DRILL DETAIL****DETAIL B**  
FOR  $\phi 0.375$  HOLES ONLY

AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR  $\phi 0.375$   
HOLES ONLY:

1. CHAMFER HOLE  $0.030 \times 45^\circ$
2. INSERT D2649 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE TO  $\phi 0.313 \times 0.75$  DEEP

**DETAIL C**  
FOR  $\phi 0.313$  HOLES ONLY**DETAIL D****DETAIL E** AN3C4A BOLT (1)

AN4C5A BOLT (1)  
AN960C416 WASHER (1)  
INSTALL WITH SIKAFLEX-241/-291

CCR264SS3-3 RIVETS (2 PLACES)  
INSTALL WITH LPS-3

CR3212-4-03 RIVETS (2 PLACES)  
INSTALL WITH LPS-3

D3415-041 NUT PLATE,  
LPS-3 ON FAYING SURFACE, LPS HARDCOAT ON EXTERIOR

D3413-1 RING

D3285-1 CAP (REF)

$\sqrt{1/16}$

1.0  
REMOVE RIDGE  
ON INSIDE OF  
SKIDTUBE LEAVE  
0.070 MIN.

ORIENTATION  
OF D3415-041

**DET ATTACHED**

**RELEASED**

07.02.12

**DETAIL F NOTES**

1. CUT TUBE LEVEL
  2. REMOVE RIDGE ON FWD SIDE
  3. LOCATE D3285-1 (TRIM AS NECESSARY)
  4. WELD D3285-1 IN PLACE PER DART QSI 004
  5. GRIND FLUSH
  6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

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CHECKED	APPROVED			DRAWING NO.	REV. D
				D3274	SHEET 4 OF 4
DATE				TITLE	SCALE
06.12.19				SKIDTUBE ASSEMBLY	

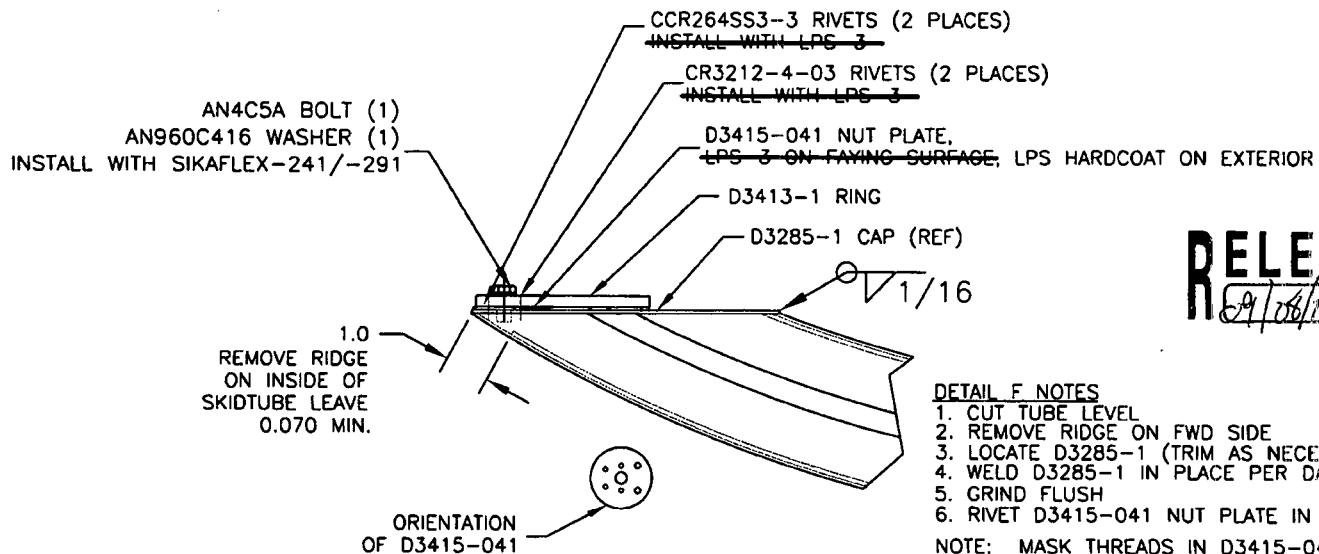
DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	<b>DART AEROSPACE USA, INC ENGINEERING ORDER</b>	D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>CP</i>	CHECKED <i>A</i>	MFG. APPR. <i>M</i>	APPROVED <i>MAP</i>	DE APPR. <i>#</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23	DATE 09/06/23	DATE 09.06.23	

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: "~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS.~~  
 COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

**DETAIL F: END FINISHING DETAIL**



**RELEASED**  
*09/06/06 M*

**DETAIL F NOTES**

1. CUT TUBE LEVEL
  2. REMOVE RIDGE ON FWD SIDE
  3. LOCATE D3285-1 (TRIM AS NECESSARY)
  4. WELD D3285-1 IN PLACE PER DART QSI 004
  5. GRIND FLUSH
  6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041 PRIOR TO FINISH

